

## WE CLAIM:

1. A method for providing a transmission packet, the transmission packet comprising a data independent field and a payload field, the method comprising:

5 processing digital data to provide a modulated digital payload;

obtaining pre-defined modulated transmission protocol bits stored in a memory; and

10 combining the modulated digital payload and the predefined modulated transmission protocol bits to provide the transmission packet, wherein the modulated digital payload is in the payload field and the modulated transmission protocol bits are in the data independent field.

15 2. A method, according to claim 1, including the further step of Digital to Analogue Converting the transmission packet.

20 3. A method, according to claim 1, wherein the processing further includes filtering the digital data.

4. A method, according to claim 3, wherein the processing further includes shaping the digital data.

25 5. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally modulated version of the synchronization sequence.

6. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally shaped version of the synchronization sequence.

5 7. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally filtered version of the synchronization sequence.

10 8. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally modulated version of packet length information identifying the number of bits in the payload field.

15 9. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally shaped version of the packet length information.

20 10. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally filtered version of the packet length information.

25 11. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally modulated version of data rate information.

12. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally shaped version of the data rate information.

13. A method, according to claim 1, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally filtered version of the data rate information.

5 14. A method, according to claim 1, wherein the obtaining includes selecting the pre-defined modulated transmission protocol bits from a group of pre-defined modulated transmission protocol bits stored in the memory.

10 15. A method, according to claim 14, wherein, the obtaining includes selecting the pre-defined modulated transmission protocol bits from a group of pre-defined preamble bits and group of header bits, the preamble bits including a bit sequence representative of the synchronization sequence.

15 16. A method, according to claim 1, wherein the method has the further step of transmitting the transmission packet.

17. A communications unit for providing a transmission packet,  
20 the transmission packet comprising a data independent field and a payload field, the communications unit comprising:

a processor;

a memory storing pre-defined modulated transmission protocol bits, the memory being operatively coupled to the  
25 processor; and

a Digital to Analogue Converter coupled to the processor, wherein in use, the processor receives and processes a plurality of bits to provide, to the Digital to Analogue Converter, a modulated digital payload combined with the modulated  
30 transmission protocol bits to provide the transmission packet,

and wherein the modulated digital payload is in the payload field and the modulated transmission protocol bits are in the data independent field.

5           18. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally shaped version of the synchronization sequence.

10           19. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally filtered version of the synchronization sequence.

15           20. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally modulated version of packet length information identifying the number of bits in the payload field.

20           21. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally shaped version of the packet length information.

25           22. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally filtered version of the packet length information.

23. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally modulated version of data rate information.

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24. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally shaped version of the data rate information.

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25. A communications unit, according to claim 17, wherein the modulated transmission protocol bits include a bit sequence representative of a digitally filtered version of the data rate information.

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